

**Matsushita Electric Corporation
of America**

Panasonic Technics Quasar

1620 L Street N.W., Suite 1150
Washington, D.C. 20036
Tel: 202.223.2575
Fax: 202.223.2614

Government and Public Affairs

July 11, 1996

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Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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Dear Mr. Caton,

Enclosed please find an original and nine (9) copies of Comments of Matsushita Electric Corporation of America on the Commission's Fifth Further Notice of Proposed Rule Making in MM Docket No. 87-268.

Submitted by,



Paul Schomburg
Matsushita Electric Corporation of
America

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Washington, DC 20036
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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20054**

In the Matter of)
)
Advanced Television Systems and) MM Docket No. 87-268
Their Impact Upon the Existing)
Television Broadcast Service)

**COMMENTS OF MATSUSHITA ELECTRIC CORPORATION OF
AMERICA**

Matsushita Electric Corporation of America (MECA) hereby
comments on the Commission's Fifth Further Notice of Proposed Rule
Making (Fifth Notice) in the above-captioned proceeding.

I. INTRODUCTION

MECA is the principal U.S. subsidiary of Matsushita Electric Industrial Co., Ltd. of Japan. Along with its subsidiaries and affiliates, MECA manufactures and markets sophisticated electronics products under the Panasonic, Technics and Quasar brands. The company employs some 11,000 Americans -- 55 percent of them in manufacturing -- in 26 states. The company has seven U.S. R&D labs and 15 U.S. factories, with two additional factories under construction and two more in the planning stage, and is committed to bringing even more manufacturing and R&D labs to the United States and

expanding its activities in the local communities where the company operates.

Matsushita has a cumulative investment in North America of over \$1.7 billion. MECA pays \$220 million annually in North American taxes and tariffs, and accounts for annual exports of nearly \$400 million.

Matsushita Electric's founder, Konosuke Matsushita believed that the concern of industry is to enrich society by producing goods in abundant supply. He dedicated the company to the mission of manufacturing items of good quality that are affordable to ordinary consumers. His aim to make products as "inexhaustible and as cheap as tap water" is certainly consistent with the goals of the FCC to promote "free and universally available digital broadcast television service" (Fifth Notice, paragraph 1). This philosophy has guided MECA's investment of its technological and human resources over the last nine years in support of the development of a U.S. advanced television system through our ATV labs the active participation of our executives and technical staff in the open and competitive Advisory Committee on Advanced Television Service (ACATS) process and our contributions to the HDTV Model Station Project.

II. THE FCC SHOULD ADOPT THE COMPLETE ATSC ATV STANDARD.

In the Fifth Notice the Commission proposes to adopt, in its entirety, the ATSC ATV standard. MECA supports the Commission's proposal to adopt the complete ATSC standard to establish market certainty for consumers, broadcasters and manufacturers. The all digital ATSC ATV standard, with its emphasis on progressive scan

transmission formats and square pixels, also includes a packetized data transport structure. These features provide an advanced television system that goes far beyond today's television entertainment technology and is unmatched among worldwide digital systems under development in its compatibility and interoperability with computer and telecommunications applications. Moreover, the ATSC ATV system's provision for multiple input sources, assures a seamless transition to all progressive HDTV production.

The Commission should rely on the recommendation of its own Advisory Committee on Advanced Television Service (Final Report and Recommendation of the Advisory Committee, adopted November 28, 1995) composed of concerned leaders of diverse industries and supported by the efforts of the best technical experts that industry and government have to offer. It is the total ATSC ATV system, not a menu of subsystems, that has been recommended. As the result of an early decision by ACATS that only systems actually submitted to the rigors of testing in hardware should be considered, rather than evaluating unproved proposals on paper, the system has been thoroughly tested in both laboratories and the field. To change or eliminate any piece alters the balance of the carefully crafted whole which was arrived at after open, extensive and thorough consideration.

The ATSC ATV standard is the product of an open inter-industry process, thoughtful consideration and extensive research and development. The decade-long process that produced the ATSC ATV standard is an unsurpassed example of effective government-industry cooperation. The process has been guided by the

Commission, through the tenures of four Chairmen, with key decisions and suggestions that have set the course for system development. These have included the 1990 decision in the First Report and Order in this docket to seek a full HDTV simulcast system and, more recently, Chairman Hundt's urging to include SDTV formats as well as HDTV formats.

At the outset of the process the Commission wisely created the Advisory Committee on Advanced Television Service and appointed former FCC Chairman Richard E. Wiley its chairman, relying on industry consensus to shape the future of television. MECA served on the Advisory Committee from its inception. Through the structure of the ACATS -- its Technical Subgroup, three subcommittees, and more than thirty working parties and expert groups -- and the open and competitive process it created, private investment supported the evaluation of 23 original proposals, culminating in a final cooperative phase to combine the best attributes of four "finalist" all-digital systems into the digital HDTV Grand Alliance system.

The final system recommendation is stronger, more inclusive and more flexible for the contributions, including some criticism, of the computer industry. All-digital layered architecture, packetized data transport structure, headers and descriptors, support of multiple picture formats and frame rates with a heavy emphasis on progressive scan and square pixels, and compliance with MPEG-2 international compression and transport standards make the ATSC ATV standard the most advanced television system in the world. If it is not fully standardized by the Commission, the marketplace will either fail to provide a standard, as in the case of AM stereo, or seek

a de facto standard. In the absence of an FCC standard, the European DVB system, an all interlace, non-interoperable system currently gaining support throughout Europe would be a strong contender. Thus, if the Commission does not act, the result may well be a less inclusive and less flexible system than the ATSC ATV transmission standard recommendation before the Commission today.

The lengthy competitive process that resulted in the Grand Alliance system, embodied in the ATSC ATV standard, produced a system that can be used by broadcasters immediately, but also provides tremendous flexibility for future enhancements. The debate over the comparative advantages of interlace and progressive scanning is fundamentally one of idealism versus pragmatism. It is unnecessary and would be unwise for the FCC to attempt to determine which particular formats should be standardized. The great genius of the compromise that made the Grand Alliance possible was the creation of a system capable of accepting both interlace and progressive inputs, leaving the marketplace to decide which will prevail in which application. It was a wise decision reached by the best technical experts in the field. To tamper with that fundamental decision in a political environment would be most unwise. The Commission should adopt the ATSC ATV standard as recommended by the inter-industry Advisory Committee on Advanced Television Service.

The FCC should provide maximum support and encouragement to the broadcast industry to foster the rapid transition to free, over-the-air digital television service for the public.

Free, over-the-air television is a vital national asset, and the Commission is responsible for insuring its continuation. More than 98% of Americans rely on this established service for news, information and entertainment, and it is thus distinct from PCS, DBS and DARS. New wireless telephony services such as PCS, or satellite services such as DBS, do not compare to the important role that terrestrial broadcast television continues to play in American society. The actions of the FCC to open up unused spectrum for development of new services for PCS can be compared to opening the western frontier to settlement. Television broadcast spectrum, however, can be compared to a region of heavily utilized and populated farmlands, separated by unproductive but usable land due to RF interference. The most effective way to reclaim the unused resource is for all landowners to coordinate their migration to a new, digital crop. It is legitimate and proper for broadcasters to request the FCC to facilitate this migration as part of its role as spectrum manager.

The most important step the Commission can take to support the rapid transition to digital television is to adopt a standard, enabling broadcasters to invest with confidence in the creation of their new facilities. This will foster rapid deployment, the earliest possible termination of NTSC service and the return of valuable spectrum. By adopting the complete ATSC ATV standard, the FCC can assure broadcasters and manufacturers that the direction for the future is clear and investment in new equipment and the means to produce it can proceed with confidence, thus encouraging the rapid deployment of digital television.

In the Fifth Notice the Commission asks whether it should rely on existing procedures to ensure the continued vitality of the ATSC ATV standard. It is MECA's view that the Commission should rely on its existing procedures to provide ongoing review of the ATSC ATV standard. The Commission's process is open, fair, flexible and proven. Continued improvement to the standard would be ensured by the Commission's process. "Sunset" of standardization would diminish market certainty, leading to fewer choices for consumers and higher costs. A continued FCC role as an umpire to ensure an open and flexible process is appropriate and necessary.

Because of the special role television plays in our society, recognized in the Fifth Notice (paragraph 36), the FCC should continue to play a role in assuring the availability of free, over-the-air television. The current FCC procedure to establish and maintain a nation-wide standard for digital television should be continued because it provides the maximum voice to the concerns of consumers and is fair and open to all concerned parties.

III. INTEROPERABILITY HAS BEEN ACHIEVED IN THE ATSC ATV STANDARD.

Three of the ten criteria established by ACATS for a digital television system were elements of interoperability. In worldwide digital television system development, these criteria are unique. The effort to accommodate interoperability has been diligent and the outcome of that effort is unparalleled interoperability. Most fundamental to interoperability are progressive scanning, square

pixels and the system's all-digital layered architecture, incorporating packetized data transport structure and headers and descriptors.

MECA has been a leader in the development of progressive formats. MECA, through the strong efforts of Panasonic Broadcast and Television Systems Company, Secaucus NJ, and two of its U.S. laboratories, Panasonic Advanced TV-Video Laboratories, Burlington NJ and Matsushita Applied Research Laboratory, Burlington NJ, was instrumental in building consensus to approve the inclusion of two progressive SDTV formats, 704x480 60Hz (525P) and 640x480 60Hz.

The ATSC ATV standard incorporates an interlace format among the predominantly progressive scan HDTV formats. Equipment in the 1035 interlace HDTV format is widely available. MECA's HD D5 product, an HDTV capable video tape recorder, operates in the 1080 interlace standard. A great deal of other HDTV capable equipment is under development. Equipment built to the 525 progressive standard can be provided at short notice. Format converters, capable of translating 525 progressive or 1035 interlace to every format including progressive HDTV, will be widely available. There is broad consensus among technical experts that all progressive HDTV production is the goal, the power and flexibility of the ATSC ATV standard has been crafted to provide it, and MECA is investing its resources in achieving that goal.

Square pixels are provided by all of the ATSC ATV standard's HDTV formats. The inclusion of a non-square pixel SDTV format was necessary to provide backward compatibility. To cast these technical considerations in practical terms, a non-square pixel format is essential to enable the production of a montage digital television

program where the producer chooses to include clips from old, non-square pixel NTSC programs. To eliminate non-square pixels would restrict the creative options of future program producers and the program options of future viewers.

The flexible, packetized structure of the ATSC ATV system will allow new applications such as digital data broadcasting to be developed and deployed. Thus, ATV could be a catalyst to the NII's further development and the creation of new NII applications. Together, the ATSC ATV standard's layered architecture, packetized data transport structure and use of headers and descriptors provide a system of the greatest flexibility, enabling unlimited applications in services that are familiar today and those not yet imagined.

In a digital system, program origination is uncoupled from display. Within a few years flat panel technology will be implemented in ATV receivers and that display technology dictates progressive scan display. All film originated programs will be transmitted in full progressive scan format. Since 65% of primetime programming is created on film, a major portion of the most popular programming will be produced and transmitted in the progressive mode. With the de-coupling of production, transmission and display systems made possible by digital technology, the continuing debate on the comparative advantages of interlace and progressive scanning is pertinent only to HDTV **production**. Today interlace HDTV equipment and 525 progressive equipment with format conversion capability is widely available at increasingly affordable prices to support production of programs requiring live image capture and real time transmission such as baseball games.

Interoperability is, of course, a matter of degree. The ATSC ATV standard strikes a balance among the different and often conflicting requirements of broadcast, cable, computing and telecommunications that is unparalleled in the world.

Market forces will provide an incentive to non-broadcast industries including cable, MMDS and DBS, to support the ATV standard. The advantage to using the ATSC ATV standard in other distribution systems can be achieved if the standard is promptly adopted. This important benefit for the consumer depends on swift action from the FCC.

Leaders in these media have begun to realize the benefits of standardization -- interoperability, consumer confidence and lower costs. The FCC should act quickly to adopt the ATSC standard for broadcast use before proprietary technologies become entrenched in other media and pose a barrier to the consumer benefits of cross-media standardization.

Use of the ATV standard in non-broadcast media will promote the competitive availability of set-top boxes from retail channels. Retail availability of set-top boxes is required by Section 304 of the Telecommunications Act of 1996 which requires Commission review and action. MECA urges the Commission to act on competitive availability as soon as possible.

For the purpose of retransmission of broadcast signals on cable systems, the ATV signal should be treated the same as the NTSC signal is today. The Commission has consistently supported compatibility for broadcast and cable television (see *Third Report and Order*, 7 FCC Rcd at 6984 and *Second Report and Order*, 7 FCC Rcd

3340). More recently Chairman Hundt, in a speech before the National Cable Television Association on May 9, 1995 urged the industry to ensure that "consumers don't have to pay hundreds of extra dollars for a digital receiver, and hundreds more redundant dollars to make the cable connection compatible."

MECA believes that broadcast signals should be carried on cable systems unaltered, just as the NTSC signal is now. The Commission's powers to "ensure cable carriage of such broadcast signals" is conveyed in Section 614(b)(4)(B) of the Communications Act. The "must carry" rules have recently been affirmed by a U.S. district court (see *Turner Broadcasting v. FCC*, 1995 U.S. Dist. LEXIS 18611 (D.D.C. Dec 12, 1995)).

IV. RECEIVER STANDARDS ARE UNNECESSARY.

There is a very fundamental distinction between consideration of a transmission standard and receiver standards: the broadcast industry petitioned the Commission to adopt a transmission standard when 58 broadcast organizations filed a Joint Petition for Notice of Inquiry in February 1987, initiating this docket, while manufacturers have never asked for a receiver standard. MECA supported the original broadcast industry petition in 1987 in comments in the First Inquiry in this docket, believing then as now that the transmission standard is vital to create the market certainty required for investment. With a transmission standard in place, receiver standards will not be required.

When a transmission standard is adopted, creating the basis for design of consumer and broadcast equipment, the television industry

will quickly respond with ATV products in a range of prices and quality. The television manufacturing industry is an extremely competitive one that responds directly and immediately to market demand. The company that produces the product that most closely fits the consumer needs, not necessarily the highest performing product, is quickly the leader. This is an industry where market decisions, entirely driven by competitive forces, work well for the consumer and industry.

Advanced television products will be manufactured for a variety of purposes each with performance/cost compromises optimized for its intended purpose. Competitive market forces will ensure that TVs are able to receive all formats, that no one's television will go black and that products will be available at a cost within the reach of ordinary citizens. Mandated performance standards would seriously impair the efficient product creation system that works so well today.

The current free market situation with its extreme competitive environment has for years produced the most efficient, lowest cost, highest performing, longest lasting product in the world. This clearly indicates that the market forces are working well and there is no need for mandated performance standards.

Maximum flexibility will ensure that all consumer segments will be provided with technology that meets their needs. Otherwise low income segments could be priced out of the market, disenfranchising those viewers.

V. CONCLUSION

The Commission controls the tap which controls the free flow of advanced television services, an important element of the emerging national information infrastructure. The FCC's ability to standardize the ATSC ATV system will provide the market certainty that will enable MECA and other manufacturers to compete to provide better products at lower costs, broadcasters to compete to provide the most appealing mix of services, and consumers to be enriched by new source of information and entertainment. ACATS and ATSC, with the support and investment of industry, had developed, adopted and recommended to the Commission, the all-digital, flexible ATV standard that will assure the continued vitality of free, over-the-air television well into the 21st century. Only one more crucial step is required.

The FCC should continue to act in good faith, as it always has, with industry by moving rapidly forward and adopting the full ATSC ATV standard.

Respectfully submitted,



F. Jack Pluckhahn
Vice President
Matsushita Electric Corporation
of America
1225 Northbrook Parkway
Suwanee, GA 30174

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